2/2 027 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0107225

ABSTRACT/EXTRACT--(U) GP-0- ETTINGSHAUSEN LONGITUDINAL FOR THE CASE OF SEMIMETALS A QUITE UNIQUE CORRESPONDENCE IS FOUND BETWEEN THE ANISOTROPY OF THE EFFECT AND THE BAND STRUCTURE NEAR THE FERMI LEVEL. IT IS SHOWN THAT THE COMMUTATION EFFECT WHICH DETERMINES THE DEPENDENCE OF THE MAGNETO THERMO E.M.F. MAGNITUDE ON THE DIRECTION OF THE INDUCTION VECTOR, PERMITS TO JUDGE ABOUT THE NUMBER AND LOCALIZATION OF BAND EXTREMA IN THE K SPACE. THIS IS AN EFFECTIVE WAY FOR STUDYING BAND STRUCTURES OF BISMUTH AND ITS ALLOYS AT HIGH TEMPERATURES.

ABSTRACT. THE DEPENDENCE OF THE NERNST EFFECT ON THE DIRECTION OF THE MAGNETIC FIELD IS STUDIED THEORETICALLY AND EXPERIMENTALLY.

UNCLASSIFIED

GITTSOVICH, V. N.

(4)

Selected Translations of Metallurgy JPRS 58611 30 March 1973. From Fizika Metallov i Metallovedeniye Vol 34, #6, 1972

UDC 669.017.3:539.4

STUDY OF THE PROCESS OF STRENGTHENING SOLID BODIES BY MEANS OF NUCLEAR GAMMA-RESONANCE

G. N. Belozerskiy, V. N. Gittsovich, O. G. Sokolov, and Yu. P. Khimich, Leningrad State University imeni A. A. Zhdanov, submitted to press 28 September 1971
pages 1284-1286

This work was attempted for the purpose of studying the physical processes responsible for the strengthening of real bodies, in particular alloys, by using the method of nuclear gamma-resonance (YaGR).

The application of nuclear gamma-spectroscopy for these purposes seems to be very justified to us because of its great sensitivity to the phase composition of the specimens. Aside from this, the strengthening of solids is associated in one way or another with the change in the structural state of the crystalline lattice, in particular with the change of the degree of its defect occurrence, which must be felt on the magnitude of the resonance absorption factor.

For the investigation, iron-vanadium steel was selected (1% V, 0.2% C) and steel of brand 20KhN3MF (0.2% C, 3% Ni, 1% Mo, Cr < 1%, V < 1%), which may be strengthened not only by the hardening method, by cold rolling but also as a result of the processes of secondary hardening, caused by the precipitation of dispersed special carbides in the tempering of hardened specimens.

The experiments were conducted on specimens which had passed through various types of treatment for the purpose of changing their strength properties: cold-rolled (degree of deformation 73%); hardened at 1100 and 850°C; and tempered at 900°. Specimens hardened at 850° were subjected to further tempering at temperatures of 400, 550, and 650°, in which the processes of secondary hardening occur.

The spectra were recorded by a 800-channel analyser of the Moessbauer spectrometer of the electrodynamic type, with a constant acceleration, and were processed on an EVM (electronic computer).

All the spectra are Zeeman groups of six, or, more accurately, by superposition of several groups of six, corresponding to various states of the nearest surroundings of iron atoms. At 1% vanadium, states with only one replacement atom in the nearest coordinate spheres have a non-disappearing probability. According to data from reference [1], the presence of one atom of vanadium in the first two spheres decreases the field in the iron by approximately 8%, and in the third sphere increases it by 1.6%. Thus, ignoring the effect of the third and subsequent spheres, in simplified phase analysis we may consider the spectrum to be consisting of two groups of six. In this case we will not consider less than 1% of iron atoms, having two or more atoms of vanadium in the first two coordination spheres. The reasonable values of χ^2 obtained by us in the processing of the spectra on the EVM (usually of the order of the number of points of the experimental spectrum) also show the permissibility of such an approximation.

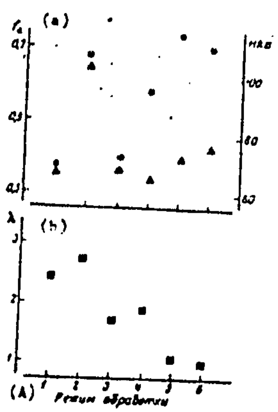

Figure 1. Dependences of the magnitude of the resonance absorption factor f_a (●) and the HRB hardness (▲) upon the form of treatment of the specimen (a). The comparative dependence of λ (■) of the degree of asymmetry of the lines of the spectrum upon the form of the specimen is also shown (b). Along the abscissa axis are plotted: (1) annealing at 900°C; (2), (3) hardening at 1100 and 850°; (4)--(6) tempering at 400, 550, and 650°C. (A) treatment regime.

USSR

GIVARGIZOV, YE. I., CHERNOV, A. A., Crystallography Institute of the USSR Academy of Sciences

UDC 548.52

"Growth Rate of Filamentary Crystals by the Vapor-Liquid-Crystal Mechanism and the Role of Surface Energy"

Moscow, Kristallografiya, Vol 18, No 1, 1973, pp 147-153

Abstract: Experiments were performed with respect to the growth of Si, Ge and GaAs whiskers on a monocrystalline substrate inoculated with Au particles as the liquid forming admixture (the vapor-liquid-crystal growth mechanism). The limiting stage of the process is qualitatively established: the phenomena at the liquid-crystal interface turned out to be decisive. A quantitative study was made of the growth rate of Si-crystals as a function of their diameter. There is a critical diameter (d_k) below which (for the given supersaturation in the gas phase) the crystals do not grow. The kinetic crystallization coefficient was $\sim 3.7 \cdot 10^{-4}$ cm-sec^{-1}, and the effective supersaturations in the gas phase were from $2.9 \cdot 10^{-2}$ to $12.2 \cdot 10^{-2}$ which corresponds to critical diameters from 0.22 to 0.05 microns. The existence of a critical diameter was found to be caused by the Gibbs-Thomson effect.

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USSR

UDC 615.331 (PRODIGIOSANUM).015.46

YERMOL'YEVA, Z. V., VAYSBERG, G. YE., BRAUDE, A. I., TARANENKO, L. A., LUSHINA, L. A., GIVENTAL', N. I., and SHCHERBAKOVA, E. G., Laboratory of Medical Pathology and Laboratory of New Antibiotics, Chair of Microbiology, TsIU [Central Institute for the Advanced Training of Physicians], Moscow

"The Effect of Prodigiozan Inhalation on the Immunological Reactivity of the Human Body"

Moscow, Antibiotiki, Vol 18, No 1, 1973, pp 76-79

Abstract: Inhalation of prodigiozan promotes immune reactions in the human body. Thus, in a group of 78 subjects aged 19 to 59, a single inhalation of 5 ml of a 0.04% prodigiozan aerosol (obtained under 0.5-0.8 atm at a rate of 12-15 L/min) increased the number of active neutrophils from 53 to 74% in 24 hrs in all subjects, and the increased phagocytic activity was maintained at least up to the 48th hr after inhalation. At the same time, the inhaled prodigiozan increased alkaline phosphatase activity in the neutrophils of peripheral blood from 42 to 115 conventional units in 35 out of 39 subjects, raised lysozyme concentration from 2.7 to 3.5 mcg/ml of blood serum in 12 out of 27 subjects, and induced formation of interferon in titers of 7-13 units/ml serum in 10 out of 10 subjects. It is concluded that a single inhalation of 1/2

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YERMOL'YEVA, Z. V., et al., Antibiotiki, Vol 18, No 1, 1973, pp 76-79

prodigiozan aerosol significantly stimulates humoral and cellular components of human immunological reactivity.

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USSR

UDC 669.184

YEVTUSHENKO, V. B., MIKHNEVICH, YU. F., KULIKOV, V. O., GIZATULIN, G. Z.

"Technological Process for Making, Killing, and Pouring 08Yu Nonaging Bessemer Steel"

Dnepropetrovsk, Metallurgicheskaya i gornorudnaya promyshlennost', No 2 (74), 1972, pp 16-17

Abstract: The technological processes for making, killing, and pouring 08Yu nonaging Bessemer steel are discussed. In 1966-1969, the Donetsk Scientific Research Institute of Ferrous Metallurgy and the Zhdanov Metallurgical Plant imeni Il'ich performed research to develop these processes for cold-rolled sheet 08Yu Bessemer steel for complex and supercomplex drawing. The results of these studies are discussed. The state of oxidation of the metal is affected by the intensity of blowing and ore additions for temperature correction at the end of blowing. The application of solid cast iron in the amount of 600-700 kg per melt was most effective in lowering the oxidation state of the metal in the Bessemer converter. Scavenging was carried to a carbon content of 0.06% and lower, but the scavenging intensity rarely exceeded 1.9 nm^3/min·ton of steel. Fifteen versions of introducing aluminum into the metal were investigated. The most optimal version was introduction of the primary aluminum as a monolith in a meltable packaging placed in the ladle on a false stopper

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YEVTUSHENKO, V. B., et al., Metallurgicheskaya i gornorudnaya promyshlennost', No 2 (74), 1972, pp 16-17

before tapping. With the optimal version of alloying the primary large surface defect of the O8Yu steel slabs was bottom splash. This defect was best controlled by improving the organization of the metal stream.

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USSR

UDC: 621.396.6:621.318

IL'INSKAYA, L. V., GIZATULLINA, L. Ye.

"On the Problem of Approximating Demagnetization Curves"

Sb. nauchn. tr. Vladimir. politekhn. in-t (Collected Scientific Works of Vladimir Polytechnical Institute), 1970, vyp. 10, pp 43-48 (from RZh--Radiotekhnika, No 1, Jan 71, Abstract No 1V370)

Translation: The article contains some hypotheses on the problem of approximating demagnetization curves. Six illustrations, one table, bibliography of five titles. Resumé.

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USSR

UDC 619:616.988.43-097.3

AMFITEATROV, F. Z. (deceased), GIZATULLINA, N. K., and VASYUNIN, V. M., Kazan' Veterinary Institute, Kazan', and Kursk Biologicals Factory, Kursk

"Inactivation of the Virus of Foot-and-Mouth Disease With Methylglyoxal"

Moscow, Veterinariya, No 5, May 73, pp 64-65

Abstract: In experiments on foot-and-mouth disease virus of types A and O, methylglyoxal had an inactivating effect on the virus without lowering significantly its antigen activity, as shown by tests on the immunization of rats, rabbits, and mice. The rate of inactivation of the virus increased with increasing concentrations of methylglyoxal (0.01-0.1% applied at 37°), on increasing the temperature of inactivation from 23 to 37°, and with an increasing pH (6.5-8.5). An experimental vaccine for tests was prepared by treating foot-and-mouth disease virus of subtype A_{22}, strain 550, infectious titer $10^{6.5}$ LD_{50}/ml, with 0.05% methylglyoxal for 8 hrs at pH 7.6 and 37°C and then combining 70% of the inactivated virus suspension with 25% of a 6% suspension of $Al(OH)_3$, 5% glycerin, and 0.03% saponin.

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200920007-9"

USSR UDC 619:616.9-022.6+636.1+636.2+636.4+636.52/.58

AMFITEATROV, F. Z.; GIZATULLINA, N. K.; KALMYKOV, V. A.

"Reaction of Cattle to the Introduction of Experimental, Inactivated, Foot-and-Mouth Disease Vaccine"

V sb. Uch. Zap. Kazan. Vet. In-ta (Scientific Writings of the Kazan Veterinary Institute), 1969(1970), No 104, pp 46-49 (from RZh-Zhivotnovodstvo i Veterinariya, No 2, Feb 71, Abstract No 2.58.580)

[No abstract]

1/1

USSR

UDC 616.981.49-078.73

BUNIN, K. V., and GIZATULLINA, D. K., Chair of Infectious Diseases, First Moscow Medical Institute imeni I. M. Sechenova

"Clinical and Serological Parallels in Food Poisoning (Salmonellosis) Based on the Findings of Indirect Hemagglutination Reaction With Erythrocyte Diagnostica"

Moscow, Sovetskaya Meditsina, No 5, 1972, pp 59-63

Abstract: The dynamics of formation of antibodies of varying physicochemical types during food poisoning of Salmonella etiology is considered. The test consisted of the indirect hemagglutination reaction (RNGA), and the Landy-Lamb method (modified). Erythrocyte diagnostica and the cysteine test were used. A control group consisted of 150 healthy persons. The comparison group was 101 ill persons, 41.6 percent of whom had food poisoning caused by group B Salmonellae. Diagnosis was based on clinical data, bacteriological findings, anamnesis and epidemiological information; confirmation was established by the indirect hemagglutination test. The formation of antibodies of varying physicochemical types increased in direct proportion to the severity of the illness, with higher antibody titers corresponding to more severe cases of food poisoning. Serological confirmation of the diagnoses made with erythrocytic diagnostica was made in 70 to 80 percent of the tests.

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200920007-9"

USSR

UDC 656.259.2

BERZIN, M.A., GIZHDEU, V.V., LAZARENKO, YU. V., LAZER, V.S., OSTASHKOV, YE.G., PLAVNIK, YA. YU., and SOKOLOV, V.F., Design Office of the Main Administration of Signaling and Communication, Ministry of Railroads

"A Device for Monitoring a Locomotive's Transit of Block Section Boundaries"

USSR Authors' Certificate No 297522, Cl. B 61 l 3/20; B 61 l/08, filed 12 Sep 69, published 20 May 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 1, Jan 72, Abstract No 1A383P)

Translation: A device is suggested for monitoring a locomotive's transit of block section boundaries. It contains locomotive pick-up coils connected via a filter to an amplifier input, a rectifier unit whose input is connected to the aplifier output, OR circuits, a flip-flop, and an actuating unit. For purposes of simplification the device contains code separation units, the output of the rectifier unit being connected to the inputs of the code separation units, with the outputs of the code separation units connected to the inputs of the corresponding OR circuits, the outputs of the OR circuits connected to the flip-flop inputs, and the flip-flop output connected to the actuating unit input. 2 illustrations.

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1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--VIOLATION OF A UNIVERSAL RELATION IN THE LOW TEMPERATURE REGION -U-

AUTHOR-(02)-GLADCHENKO, L.F., PIKULIK, L.G.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. SPEKTROSK. 1970, 12(3), 471-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, CHEMISTRY

TOPIC TAGS--LUMINESCENCE, LOW TEMPERATURE EFFECT, AMINE DERIVATIVE, IMIDE, SOLVENT ACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1242 STEP NO--UR/0368/70/012/003/0471/0475

CIRC ACCESSION NO--AP0116704
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0116704

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEPANOV'S RELATION IN (XNU-WNU) PLUS 3INNU EQUALS HNU-KT PLUS CONST. WHERE WNU IS THE LUMINESCENCE INTENSITY AND XNU ABSORPTION COEFF. WAS CHECKED IN THE TEMP. RANGE MINUS 145 TO 20DEGREES BY USING 3,AMINO, (I), 3,METHYLAMINO, (II), 4,AMINO, (III), AND 3,6,DIAMINO, (IV) DERIVS. OF N,METHYLPHTHALIMIDE, ACRIDINE YELLOW (V), AND RHODAMIN 6G (VI) DISSOLVED IN GLYCEROL(VII) OR ME SUB2 CHCH SUB2 OH (VIII). EXCEPT FOR II AND III IN VII AT 20DEGREES, THE RELATION WAS VALID, BUT THE TEMP. CALCD. FROM IT (T SUBC) DIFFERED FROM EXPTL. TEMP. (COMPD., SOLVENT, DELTA NU SUBFL CM PRIME NEGATIVE1, TAU SUBFL TIMES 10 PRIME9 SEC. AND VARIOUS T SUBE-T SUBABS. DEGREES GIVEN): I, VII, 2100, 14, 295-304, 264-335, 223-360, 203-380; I, VIII, 1700, 15.5, 293-295, 203-308, 128-317; II, VII, 2200, 5.3, 293-369, 250-374, 223-408, 203-403; III, VII, 3450, 4.3, 293-423. 257-423, 119-480; III, VIII, 2600, 9.8, 293-315, 262-340,193-360, 143--437; IV, VII, 700, 10.3, 296-313, 255-348, 232-430, 202-466; V, VII, 1200, MINUS, 293-298, 203-274; VI, VII, 0, MINUS, 293-270, 219-114. THE RESULTS ARE DISCUSSED IN TERMS OF SOLUTE SOLVENT INTERACTION CHANGES WITH TEMP.

UNCLASSIFIED

Acc. Nr: AT0043978 Ref. Code: UR0000

PRIMARY SOURCE: Geofizicheskiy Sbornik, Kiev, 1970, Nr 33, pp 55-60

DETERMINATION OF THE AGE OF ROCKS IN ZMEINY ISLAND IN THE NORTH-WESTERN PART OF THE BLACK SEA (ACCORDING TO THE DATA OF THE PALEOMAGNETIC INVESTIGATIONS)

I. A. Garkalenko, L. G. Gladchenko, K. I. Anferova, A. N. Trèlyak

(Ministry of Geology, Ukrainian SSR, Trust «Dnieprogeophysics», Institute of Geophysics, Academy of Sciences, Ukrainian SSR)

Summary

The article deals with the result of determining the age of the sedimentary rocks of Zmeiny island by the paleomagnetic method; an attempt is made to solve the problem concerning the southern continuation of the Russian platform within the limits of the Black Sea water area.

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AT0043978

On the basis of the literary data and using the results of the paleomagnetic determinations, a conclusion is made that the rocks of Zmeiny island deposited within the limits of the Russian platform (its marginal part) and, consequently, the north-western part of the Black Sea water area up to the Odessa abyssal fracture is arranged within its limits and contains the platform deposits, beginning from the Lower Paleozoic period.

The supposed southern border of the Russian platform is in the Sfintul George cape latitude.

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USSR UDC: 621.373.531.1(088.8)

BATYRSHIN, D. M., GLADCHENKO, V. N., GRACHEV, G. F., OPESKIN, V. D., PANKOV, S. V.

"A Royer Generator"

USSR Author's Certificate No 267678, filed 15 Jun 68, published 5 Aug 70 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G232 P)

Translation: This Author's Certificate introduces a Royer generator with provision for controlling the frequency of the generated pulses over a broad range. The transformer windings connected to the collectors of the transistors are shunted by a variable resistor.

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USSR

UDC 621.382.002 (088.8)

KOCHKAREV, G.V., KRACHKOVSKIY, O.I., LEYBOVICH, A.SH., CHARNYY, YU.S., PETRAKOVSKIY, YA.SH., SIDORENKO, L.D., LEVAKOV, V.P., GLADCHENKO, V.P., RATNEK, YU.A.

"Classifier Of Semiconductor Devices"

USSR Author's Certificate No 295180, filed 14 July 1969, published 18 May 1971 (from RZh--Elektronika i yeye primeneniye, No 3, March 1972, Abstract No 3B357)

Translation: The classifier of semiconductor devices (principally transistors) contains a unit [uzel] for connection of a device to the measuring equipment, the measuring equipment, logical equipment, mechanism for marking the polarity, and a unit for allocation of the measured devices into a container; it has a rotating tube connected with an electric motor. With the object of increasing the speed of operation and the efficiency of the classifier, the unit for connection, made in the form of a revolving reversible disk, supporting two blocks [kolodka] for the devices, diametrically located and connected by a flexible braid [zhgut] with the measuring device, and two withdrawing devices, mounted on the axis of the blocks, is partially arranged inside a guiding hopper, connected with the rotating tube of the unit for allocation, and under the disk of the unit for connection, in a groove of the lateral surface of the hopper, the mechanism for marking the polarity is located.

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USSR

UDC 636.2:615.9

GLADENKO, I. N., MALININ, O. A., TRIFONOVA, T. K., SHULYAK, V. D., and KARTASHEV, M. V., Ukrainian Scientific Research Institute of Experimental Veterinary Medicine

"Toxic Properties of Sevin and Prophylaxis of Poisoning"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii Sel'skokhozyaystvennykh Nauk Imeni V. I. Lenina, No 1, Jan 73, pp 38-39

Abstract: An aqueous suspension of sevin in a 0.1-0.85% concentration has satisfactory acaricidic activity on sheep treated in vats, without any toxic manifestations. Even the 0.1% dose resulted in total kill of the parasitic mites. Oral administration of sevin leads to a rapid absorption so that in 30 min it can be observed in considerable quantities in blood, all parenchymatic organs and skeletal muscles. Maximal concentration after 4-6 hrs is observed in liver and kidneys. After 4 days no traces of sevin can be found in any organs. Sevin exhibits no cumulative properties, being rapidly excreted from the organism. Sevin residues may be found in milk and meat. Milk from the cows exposed for three days to this agent should be checked for residual content of the chemical; no beef should be slaughtered within one week of the exposure to sevin.

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1/2 038 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--TOXICITY OF TETRAMETHYLTHIURAM DISULFIDE -U-

AUTHOR-(03)-GLADENKO, I.N., FORTUSHNYY, V.A., DIRENKO, P.M.

COUNTRY OF INFO--USSR

SOURCE--VISN. SIL'S'KOGOSPOD. NAUKI 1970, 13(1), 106-9

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGANIC SULFUR COMPOUND, FUNGICIDE, TOXICITY, CENTRAL NERVOUS SYSTEM, EYE, RESPIRATORY SYSTEM, DIGESTIVE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3007/1975 STEP NO--UR/0534/70/013/001/0106/0109

CIRC ACCESSION NO--AP0137154

UNCLASSIFIED

2/2 038 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137154

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TETRAMETHYLTHIURAM DISULFIDE (I), A FUNGICIDE, DISTRUBS THE FUNCTION OF THE CENTRAL NERVOUS SYSTEM IN HUMANS AND ANIMALS. THE MUCOUS MEMBRANE OF THE EYES, THE RESPIRATORY TRACT AND THE GASTROINTESTINAL TRACT ARE IRRITATED. TOXICITY TO RABBITS WAS FOUND WITH I.V. INJECTION OF 50-100 MG I-KG LIVE WT. FEEDING TO CATTLE WITH CORN FOR 2 MONTHS AT 380 MG-KG FODDER HAD NO ADVERSE EFFECTS. FACILITY: UKR. NAUK.-DOSLID. INST. EKSP. VET., USSR.

UNCLASSIFIED

USSR UDC 632.95

DYATLOVITSKAYA, F. G., GLADENKO, Ye. F., and KRUCHININA, A. A.

"Determination Methods of Chloroorganic Insecticides in Reservoir Water"

V sb. Problemy Analiticheskoy Khimii (Collection of Works on Problems of Analytical Chemistry), Vol 2, Moscow, Nauka, 1972, pp 43-46 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom (I, L-S), No 1(II), 1972, Abstract No 1N442 by T. A. Belyayeva)

Translation: A chlorophenyl chlorobenzenesulfonate is extracted from 500 ml of water with 2x30 ml of C_6H_6, the extract is concentrated by evaporation at 50-60°C, the residue is dissolved in alcohol, saponificated with KOH in alcohol, acidified, and p-ClC_6H_4OH is removed from it by distillation. The latter is determined calorimetrically with 4-aminoantipyrine. The determination sensitivity is 0.2 mg/liter. DDT is also extracted from water with C_6H_6, the extract is evaporated, the residue is dissolved in alcohol, evaporated, nitrated, extracted with ether, the extract is neutralized with alkali, dried over Na_2SO_4, and concentrated by evaporation. The residue is dissolved in C_6H_6 and condensed with KOH in MeOH. After appearance of a blue color, DDT is determined calorimetrically. The sensitivity of the method is 10 µg per sample. Heptachlor and DDT can be also determined by

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USSR

DYATLOVITSKAYA, F. G., et al., Problemy Analiticheskoy Khimii, Vol 2, Moscow, Nauka, 1972, pp 43-46

paper chromatography in the system acetone - water (7:3). Heptachlor is extracted from water with ether. Thin layer chromatography with Al_2O_3 in n-hexane is used for the individual determination of aldrin, dieldrin, hexachlorocyclohexane, and DDT.

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USSR

UDC 533.6.011

ANTONOV, E. A., GLADILIN, A. M., Leningrad

"Intensification of a Detonation Wave by the Secondary Reaction Zone in a Two-Phase Medium"

Moscow, Mekhanika zhidkosti i gaza, No. 5, Sep/Oct 72, pp 92-96

Abstract: A method is proposed for the numerical calculation of one-dimensional nonstationary flows of gas-particle mixtures. The method is based on separating the system of differential equations for the two-phase medium into two subsystems. The purpose of the study was to show under what conditions the intensification of a detonation wave by secondary reactions is possible within the framework of the model used and to obtain a picture of the flow behind the front. The problem of the propagation of a plane detonation wave in a mixture of a detonating gas with particles, behind the front of which there occurs secondary chemical reactions between vapors of particle material and detonation products, is solved by this method. The velocity profiles of the gas and of the thermodynamic functions behind the front of the detonation wave are determined along with the relationship between the detonation rate

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200920007-9"

ANTONOV, E. A., GLADILIN, A. M., Mekhanika zhidkosti i gaza, No. 5, Sep/Oct 72, pp 92-96

and the distance from its point of initiation. Conditions for intensification of the detonation wave by the zone of the secondary reaction are obtained. The reaction selected as the reaction for achieving primary detonation in the numerical experiment was the reaction between hydrogen and oxygen

$$H_2 + {}^1/_2\, O_2 \rightarrow H_2O + g. \qquad (1.1)$$

The detonation was triggered from the wall and propagated to the right with constant velocity D_0 until its front overtakes the perturbations coming from the zone of the secondary chemical reaction. It is assumed that the secondary chemical reaction of vapors of particles consisting of the element A with detonation products proceeds as follows:

$$A_2 + H_2O \rightarrow A_2O + H_2 + Q. \qquad (1.2)$$

Since the calculation of specific systems was not the purpose of this paper, the element A was taken as arbitrary and for simplicity its atomic weight was taken so that the average molecular weight of the gas in the process of evaporation and reaction was constant. An element with atomic weight equal to 9 satisfies this for reaction (1.1) and (1.2). The authors examined a considerable number of variations of the problem in which the particle radius and the thermal effect of the secondary reaction varied from $2.5 \cdot 10^{-6}$ to $5 \cdot 10^{-5}$ m and from 100 to 300 kcal/mole, respectively. It was found that

USSR

ANTONOV, E. A., GLADILIN, A. M., Mekhanika zhidkosti i gaza, No. 5, Sep/Oct 72, pp 92-96

particles of radius more than 10^{-5} m even for Q = 300 kcal/mole could not increase the velocity of the detonation wave under the condition that mass exchange occurred only due to evaporation.

UDC 632.95

USSR

ARNOL'DOV, Ye. M., MITYAKINSKIY, V. I., GLADILIN, I. N., YAKUBA, A. R., KOSTITSIN, B. A., KIYASHKO, V. K., KAZ'MIN, M. F., SHUL'MAN, V. N.

"A Method of Making the Discharge Form of Copper 2,4,5-Trichlorophenoxide"

USSR Author's Certificate No 345121, filed 14 Feb 69, published 9 Aug 72 (from RZh-Khimiya, No 9, May 73, abstract No 9N509P by T. G. Chekareva)

Translation: A method is proposed for making a commerical form of copper, 2,4,5-trichlorophenoxide (I) used in making poisons. A wet paste of compound I is filtered, pressed to a moisture content of 50-55%, loaded into a crank mixer, and mixed with talc and kaolin in a ratio of 1:1:2 respectively. The mixture is agitated for 1-2 hours. It is then loaded as a powder containing 16-20% moisture into a drier with a fluidized bed of inert material. The degree of moisturizing of the dry product in the cyclone is of the order of 96-97%.

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Biochemistry

USSR

GLADILIN, K. L.

"Jubilee Session Honoring the 50-Year Anniversary of Academician A. I. Oparin's Theory on the Origin of Life"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 6, Nov/Dec 72, pp 930-931

Abstract: The Department of Biochemistry, Biophysics and Physiological Chemistry, Academy of Sciences USSR, with the Scientific Council on Evolutionary Biochemistry and the Origin of Life, Academy of Sciences USSR, conducted the session May 30, 1972. A. I. Oparin reported on the history of his theory, which traces the evolutionary development of matter into living organisms. A lecture by O. G. Gazenko examined significance of the theory for space biology and extraterrestrial life. D. Ya. Martynov reported on carbonaceous compounds and their probable role as the source of biogenic molecules. The geological aspects of the origin of life were examined by V. N. Florovskaya. T. E. Pavlovskaya discussed ultraviolet light of the sun as a source of energy for photochemical reactions in formation of organic compounds before life on earth, while problems of metalloporphyrin complexes were reported on by A. A. Krasnovskiy. A. S. Spirin and L. P. Gavrilova examined the origin of biosynthesis of albumin. T. N. Yevreinova reported on coacervate systems and the origin of life. The

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200920007-9"

USSR

GLADILIN, K. L., Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 6, Nov/Dec 72, pp 930-931

role of inorganic polyphosphates in biogenesis and the evolution of energetic systems was covered by I. S. Kulayev, while A. N. Studitskiy discussed the ultrastructure of cells and possible modes of cell origin.

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USSR UDC 616.921.5-036.22(470.51)"1966-'967" 6

AKSENOV, V. A., ORLOVA, N. N., SELIDOVKIN, D. A., AKSENOV, L. A., ZORIN, V. S., VOLOCHKOV, A. D., GLADINA, YE. B., SAMUSEV, N. F., ZAKSTEL'SKAYA, L. YA., and YEVSTIGNEYEVA, N. N., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Ministry of Health USSR

"Some Features of the 1966-1967 Influenza Epidemic in Glazov"

Moscow, VoProsy Virusologii, No 1, 1970, pp 97-101

Abstract: This epidemic occurred in two waves: the first i. November-December, 1966, when few cases of influenza or other acute respiratory diseases were reported in most of the USSR and localities adjacent to Glazov, and the second in February, 1967. The first wave affected mostly young children, while the second wave affected children and adults to almost the same degree, 10.6 and 9.8 per 100 persons. The course of the disease was severe among children, but relatively mild among adults. The high incidence of influenza in the first wave, characteristic dynamics of the curve with a sharp rise, quick attainment of a peak, and sharp drop, as well as the results of serological examinations, implicated the A_2 virus as the 1/2

USSR

AKSENOV, V. A., et al., Moscow, Voprosy Virusologii, No 1, 1970, pp 97-101

causative agent. The second wave was attributed to the B virus. A peculiar virus - an atypical A, strain with altered antigenic structure - was also isolated during the epidemic. However, the absence of antibodies in both children and adults indicated that it did not play an etiological role in the outbreak.

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--SYNTHESIS OF POLYCRYSTALLINE FORMATIONS OF CUBIC BORON NITRIDE -U-

AUTHOR-(05)-VERESHCHAGIN, L.F., YAKOVLEV, YE.N., SLESAREV, V.N., VORFOLOMEYEVA, T.D., GLADKAYA, I.S.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 345-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--BORON NITRIDE, CRYSTALLOGRAPHY, CHEMICAL SYNTHESIS, HIGH PRESSURE R AND D

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1049 STEP NO--UR/0020/70/191/002/0345/0346

CIRC ACCESSION NO--AT0119916
UNCLASSIFIED

2/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119916

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYNTHESIS OF STRONG POLYCRYST. FORMATIONS OF THE CUBIC BN AND OF POLYCRYSTALS OF A GIVEN SHAPE IS REPORTED.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--FATTY ACID AND GLYCERIDE COMPOSITION OF BUTTERFAT -U-

AUTHOR-(03)-YAKUBOV, M.K., GLADKAYA, V.F., ATRAMENTOVA, V.G.

COUNTRY OF INFO--USSR

SOURCE--MOLOCH. PROM. 1970, 31(2), 19-21

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FATTY ACID, FAT, FOOD ANALYSIS, GLYCERIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0253 STEP NO--UR/0333/70/031/002/0019/0021

CIRC ACCESSION NO--AP0113188

UNCLASSIFIED

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200920007-9"

2/2 012 UNCLASSIFIED PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0113188
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BUTTERFAT CONTG. 23.65 AND 36.05 MOL. PERCENT UNSATD. ACIDS CONSISTED MAINLY OF DI AND TRISATD. GLYCERIDES. MONOSATD. AND TRIUNSATD. GLYCERIDES WERE NOT FOUND IN WINTER FAT, AND IN SUMMER FAT ONLY 8.17 AND 0.31PERCENT, RESP., WERE FOUND. FACILITY: KHAR'KOV, POLITEKH. INST. IM. LENINA, KHARKOV, USSR.

UNCLASSIFIED

USSR

UDC 669.76:79

SOKOLOV, L. D. (Editor), SKUDNOV, V. A., SOLENOV, V. M., GLADKIKH, A. N., SHETULOV, D. I., SHNEYBERG, A. M., GUSLYAKOVA, G. P., and DMITRIYEV, N. P.

Mekhanicheskiye Svoystva Redkikh Metallov (Mechanical Properties of Rare Metals), Moscow, Izdatel'stvo Metallurgiya, 1972, 288 pp

Translation of Annotation: A study is made of the mechanical properties (deformation resistance, plasticity, fatigue, creep, and stress-rupture strength) of rare and other metals, and their dependence on temperature and deformation rate. Characteristics of strain hardening, the stress and plasticity dependencies on temperature and deformation rate parameters, and other experimental data are discussed on the basis of the theory of defects and other contemporary concepts regarding the type of bonds in crystals.

The book is intended for scientists, engineers, and technicians at institutes, design institutions, nonferrous metallurgy plants, machinebuilding plants, and power engineering stations. It can also be useful to aspirants and students in higher educational institutions.

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USSR

SOKOLOV, L. D. (Editor), et al., Mekhanicheskiye Svoystva Redkikh Metallov (Mechanical Properties of Rare Metals), Moscow, Izdatel'stvo Metallurgiya, 1972, 288 pp

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USSR

SOKOLOV, L. D. (Editor), et al., Mekhanicheskiye Svoystva Redkikh Metallov (Mechanical Properties of Rare Metals), Moscow, Izdatel'stvo Metallurgiya, 1972, 288 pp

(4)

USSR

SOKOLOV, L. D. (Editor), et al., Mekhanicheskiye Svoystva Redkikh Metallov (Mechanical Properties of Rare Metals), Moscow, Izdatel'stvo Metallurgiya, 1972, 288 pp

4/4

USSR UDC 539.4

SOLENOV, V. M., SKUDNOV, V. A., SOKOLOV, L. D., GLADKIKH, A. N., Gor'kiy Polytechnical Institute, Gor'kiy

"Study of the Temperature-Rate Dependence of the Strength and Plasticity Characteristics of Lutecium"

Kiev, Problemy prochnosti, No. 8, Aug 71, pp 61-63

Abstract: A technique is described for studying the effect of temperature-rate factors on the strength and deformation characteristics of lutecium. The lutecium sample in this case had the following chemical composition: Lu -- 95.72 wt. %; Er -- 0.25, Tu -- 3.5, Ib <0.1, Ca -- 0.4, Fe -- 0.025, Cu <0.005. Samples for stretching had a diameter of 1.5 mm and a working length of 8 mm, and samples for sag tests had a diameter of 1.5 mm and a height of 0.25 mm. Experiments were conducted at temperatures of -80, 110, 304, 497, 689, and 882°C and at various deformation rates ($4 \cdot 10^{-3}$, $2 \cdot 10^{-2}$, $2 \cdot 10^{-2}$ sec^{-1}); destruction tests were conducted at temperatures of -80, 304, 497 and 689°C with a deformation rate of $2 \cdot 10^{-2}$ sec^{-1}. Samples were deformed in an argon medium and the experiments were conducted after holding for 10-15 min at a given temperature.

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USSR

SOLENOV, V. M., et al, Problemy prochnosti, No. 8, Aug 71, pp 61-63

The device used for the sag tests is described. Graphs of the deformation of lutecium at different temperatures and rates of deformation show that the strength rises with a drop in temperature and with an increase in the deformation rate. The temperature dependence of the stress σ shows a nonmonotonic graph with a hump at the deformation aging temperature. The studies showed the possibility of the plastic working of Lu over a wide temperature range by using soft deformation techniques. It is noted that a purer metal should have even higher plasticity.

1/2 030 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--HEAT RESISTANCE PROPERTIES OF CERTAIN PURE METALS -U-

AUTHOR--SOKOLOV, L.D., SOLENOV, V.M., SKUDNOV, V.R., SHNEYIBERG, A.M., GLADKIKH, A.N.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK SSSR, IZVESTIIA, METALLY, MAR. APR. 1970 P. 181-189

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--DIAMOND, CRYSTAL LATTICE STRUCTURE, HEAT RESISTANT METAL, PLASTIC DEFORMATION, INTERNAL STRESS, THERMAL EFFECT, LANTHANUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0339 STEP NO--UR/0370/70/000/009/0181/0189

CIRC ACCESSION NO--AP0108637

ZZZZZZZZZZZZ UNCLASSIFIED

2/2 030 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0108637

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDY OF THE RESISTANCE TO UNIAXIAL DEFORMATION AND OF THE PLASTIC PROPERTIES OF POLYCRYSTALLINE LANTANIDES AND OTHER METALS SUBJECTED TO COMPRESSION AND TENSION AT DIFFERENT TEMPERATURES AND STRAIN RATES. IT IS FOUND THAT FOR EQUAL HOMOLOGOUS TEMPERATURES AND STRAIN LEVELS, THE SENSITIVITY TO CHANGES IN THE TEMPERATURE AND STRAIN RATE INCREASES WITH AN INCREASE IN THE STACKING FAULT ENERGY AND A DECREASE OF THE LATTICE COORDINATION NUMBER ACCORDING TO THE SEQUENCE FCC, HCP, BCC, AND DIAMOND TYPE LATTICE.

ZZZZZZZZZZZZ UNCLASSIFIED

USSR

UDC 620.17:669.14.018.29

GLADKIKH, A. N., GURASHOV, V. N., SKUDNOV, V. A. and SOKOLOV, L. D. (Krasnoye Sormovo Plant, Gor'ki Polytechnic Institute)

"Mechanical Properties of Industrial Steels with Rare Earth Metals"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 3, 1970, pp 31-34

Abstract: An investigation was made of the effect of the addition of rare earth metals on the properties of 50G, Kh17N2, 09G2, 08KP, U7, U13, 60S2, and 18KhGSN2M steels (L9 and L10). Ferrocerium, neodymium, lanthanum, and lanthanum oxides were used as alloying additives. Laboratory and industrial samples of steels were normalized at 910-940°C, then hardened at 880-900° and tempered at 660-680°. Mechanical properties were investigated at -196 to 900°C, and at various strain rates. The results are presented in graphs, which show the effect of various rare earth metals on ductility. They show that: the addition of rare earth metals lowers the brittleness critical temperature, while the ductility and cyclical strength of steels increase; the sulfur content decreases; and the addition of more than 0.20% of rare earth metals impairs the steel properties. 5 figures.

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USSR

UDC 669.873:539.3

SKUDNOV, V. A., SOKOLOV, L. D., and GLADKIKH, A. N., Gor'kiy

"Nature of Thallium Deformability"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 1970, pp 117-118

Abstract: The temperature dependences of the fatigue limit (σ), the relative elongation, and the contraction at two rates of deformation ($\dot{\varepsilon}$), as well as of index n, calculated by the formula

$$n = \frac{\log \frac{\sigma_{B2}}{\sigma_{B1}}}{\log \frac{\dot{\varepsilon}_2}{\dot{\varepsilon}_1}}$$

of thallium (99.998 wt. %) are shown. The dependences are of a nonmonotonous

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USSR

SKUDNOV, V. A., et al, Izvestiya Akademii Nauk SSSR, Metally, No 1, Jan-Feb 1970, pp 117-118

character. A plasticity failure is observed, which with an increase on the order of the rate of deformation, shifts to an area of higher temperatures, at 0.25-0.30 of thallium melting temperature. The nature of the change in the plasticity index according to temperature correlates well with the high-speed index according to durability.

2/2

1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MECHANICAL PROPERTIES OF INDUSTRIAL STEELS CONTAINING RARE EARTH METALS -U-

AUTHOR-(04)-GLADKIKH, A.N., GURASHOV, V.N., SKUDNOV, V.A., SOKOLOV, L.D.

COUNTRY OF INFO--USSR

SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970. (3), 31-4

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--RARE EARTH METAL, MECHANICAL PROPERTY, ALLOY DESIGNATION, MISCH METAL, STRUCTURAL STEEL, LANTHANUM, NEODYMIUM, SULFUR, METAL BRITTLENESS, IMPACT STRENGTH/(U)L9 STRUCTURAL STEEL, (U)L10 STRUCTURAL STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0015 STEP NO--UR/0129/70/000/003/0031/0034

CIRC ACCESSION NO--AP0119011

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119011

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STEELS L9 AND L10 WITH ADDED RARE EARTH ELEMENTS (FE-CE, MISCH METAL, ND, LA, AND LA OXIDES) WERE MELTED ON A LAB. SCALE AND UNDER INDUSTRIAL CONDITIONS. ON THE LAB. SCALE THE DEOXIDN. WAS CARRIED OUT WITH FE-SI, AND SI-CA. THE RARE EARTH ADDITIVES WERE INTRODUCED AT THE BOTTOM OF A LADLE BY MEANS OF A ROD DURING THE TAPPING OPERATION AT 1560-90DEGREES. INGOTS WERE FORGED INTO RODS, DIAM. 20 MM. INDUSTRIAL MELTS WERE PRODUCED IN AN ELEC. FURNACE, DEOXIDIZED IN THE SAME WAY AS IN LAB. EXPTS. ALL SPECIMENS WERE NORMALIZED AT 910-40DEGREES, THEN QUENCHED AT 880-900DEGREES, AND TEMPERED AT 650DEGREES. THE INTRODUCTION OF RARE EARTH ELEMENTS RESULTS IN THE LOWERING OF THE CRIT. TEMP. OF BRITTLENESS, AND IN THE INCREASE OF IMPACT AND CYCLIC STRENGTH. THE INTRODUCTION OF 0.15-0.20PERCENT RARE EARTH ELEMENTS CAUSED A DECREASE (BY 27PERCENT) OF S CONCN. IN STEEL L9. THIS WAS PARTICULARLY EFFECTIVE WITH FECE AT 0.3PERCENT LEVEL. INCREASE OF RARE EARTH ELEMENTS ADDN. TO GREATER THAN 0.20PERCENT CAUSED A DETERIORATION OF STEEL PROPERTIES.

FACILITY: GOR'K. POLITEKH. INST., GORKI, USSR.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MECHANICAL PROPERTIES OF INDUSTRIAL STEELS CONTAINING RARE EARTH METALS -U-

AUTHOR-(04)-GLADKIKH, A.N., GURASHOV, V.N., SKUDNOV, V.A., SOKOLOV, L.D.

COUNTRY OF INFO--USSR

SOURCE--METALLOVEDENIE I TERM. OBRABOT. METALLOV, 1970, (3), 31-34

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--RARE EARTH METAL, IMPACT STRENGTH, CARBON STEEL, ALLOY STEEL, METAL BRITTLENESS, TOUGHNESS, FATIGUE STRENGTH, SULFUR, SULFIDE, DESULFURIZATION, METAL MECHANICAL PROPERTY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3005/0920 STEP NO--UR/0129/70/000/003/0031/0034

CIRC ACCESSION NO--AP0133009

UNCLASSIFIED

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200920007-9"

2/2 027 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133009

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECTS OF RARE EARTH METALS ON THE MECHANICAL PROPERTIES OF C AND ALLOY STEELS WERE STUDIED. THE INTRODUCTION OF RARE EARTH ELEMENTS INTO ANY OF THE STEELS REDUCED THE CRITICAL BRITTLENESS TEMP. AND RAISED THE IMPACT STRENGTH (TOUGHNESS); IT ALSO TENDED TO RAISE THE FATIGUE STRENGTH. THE INTRODUCTION OF 0.2PERCENT RARE EARTH METALS INTO ONE TYPE OF INDUSTRIAL STEEL REDUCED THE S CONTENT BY NEARLY 30PERCENT. A STILL GREATER EFFECT ON S CONTENT WAS ACHIEVED ON INTRODUCING 0.3PERCENT; HOWEVER, FROM GENERAL CONSIDERATIONS 0.2PERCENT CONSTITUTED THE NORMAL LIMIT.

UNCLASSIFIED

USSR UDC: 8.74

GLADKIKH, B. A., MATUSHEVSKIY, V. V.

"Application of the Method of Classification to Construction of a Regressive Model"

Tomsk, Kibernetika i vuz--sbornik (Cybernetics and Higher Education--collection of works), Vyp. 5, 1972, pp 78-88 (from RZh-Kibernetika, No 5, May 73, abstract No 5V788 by the authors)

Translation: The paper discusses the problem of piecewise linear approximation of a multidimensional regression problem by using classification methods.

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1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70

TITLE--PROTECTIVE ATMOSPHERE ANNEALING ELECTRICALLY WELDED PIPING MADE OF STEEL 10 -U-

AUTHOR-(03)-ESTRIN, B.M., GLADKIKH, B.S., PLETNEV, V.I.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(1) 65-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--PIPE WELDING, ELECTROSLAG WELDING, STEEL PIPE, STEEL HEAT TREATMENT, INERT GAS WELDING/(U)10 STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1983/0297 STEP NO--UR/0133/70/030/001/0065/0068

CIRC ACCESSION NO--AP0053282

UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053282

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE USE OF FLAME CURTAINS AT BOTH ENDS OF A CONTINUOUS FURANCE WORKING WITH A PROTECTIVE ATM. PERMITS A CONVENIENT MAINTENANCE WITHIN IT OF 0.5 TORR PRESSURE NEEDED FOR FLUSHING AIR FROM THE INSIDE OF ENTERING PIPES TO KEEP O BELOW 0.004PERCENT IN THE FURNACE; THIS PROCEDURE REDUCES THE TOTAL CONSUMPTION OF THE REDUCING ATM. ESCAPING FROM BOTH ENDS OF THE PIPES. THE AMTS. INVOLVED ARE SHOWN BY CALCNS. AND BY DATA OBTAINED ON A PRODUCTION FURNACE. A SKETCH ILLUSTRATES BURNERS TO BE USED FOR FLAME CURTAIN.

UNCLASSIFIED

USSR UDC 539.385

GRINBERG, N. M., BOYCHUK, V. M., TSURIKOV, N. A., SOLOCUB, P. S., GLADKIKH, B. V., POPIRNYY, V. Ye., Khar'kov, Leningrad.

"Durability of Titanium Alloy in a Vacuum at Low and High Temperatures"

Kiev, Problemy Prochnosti, No. 4, Apr 71, p. 36-40.

Abstract: Results are presented from a study of the durability of titanium alloy under cyclical twisting in the range from 133 to 432°K under a vacuum of 10^{-7} mmHg. A significant (approximately 7 times) increase in durability of unrolled specimens is discovered for loading under a vacuum in comparison with the same loading in air. When the surface is hardened by rolling, the vacuum has almost no influence on the durability of the alloy under cyclical deformation. An increase is noted in the durability of the alloy at low temperatures, as well as in increase in static strength under these conditions. The durability as a function of temperature above room temperature follows a complex curve. Certain specifics of the fatigue rupture are studied by electron microscopy and electron fractography. An attempt is made to explain the phenomenon observed.

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USSR

UDC: 621.317.765.8

GLADKIKH, G. A., PANOV, V. G., PAKHOMOV, I. P., and CHICHIK, P. D.

"Infra-Low Noise Frequency Generator"

Moscow, Pribory i Tekhnika Eksperimenta, No. 3, 1971, pp 124-125

Abstract: The instrument described in this paper is designed for tuning measurement devices by producing electrical noise in the frequency range of 0-1 kHz. Known in spectrometry as the method of heterodyning to zero, the basis principle of the instrument is to shift the noise spectrum into the infra-low frequency range. As shown by the accompanying block diagram, the instrument consists of a noise source feeding through a matching stage to a band-pass amplifier, and thence to a multiplier, where it is mixed with the output of a heterodyning oscillator. The beat frequencies are then put through a low-pass filter. The noise source is a silicon stabilitron of the D814V type connected in series with a MP111 silicon transistor, and the heterodyning oscillator uses 1T403V transistors, its tuned circuit being resonant to 35 kHz. A circuit diagram of the noise generator is given.

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USSR UDC 615.281.5.035.4:616.988.75-036.8

AKSENOV, V. A., SELIDOVKIN, D. A., GLADKIKH, G. N., GRAKHOVA, A. G., BOGDANOVA, N. S., and PERSHIN, G. N., Ministry of Health USSR, and All Union Scientific Research Chemicopharmaceutical Institute imeni S. Ordzhonikidze, Moscow

"Evaluation of the Prophylactic Effectiveness of the New Soviet Antiviral Agent Oxoline During the 1969 Influenza Epidemic"

Moscow, Farmakologiya i Toksikologiya, Vol 33, No 6, Nov/Dec 70, pp 726-733

Abstract: Oxoline, a polyox compound of the naphthalene series, is a virucidal drug with selective activity against influenza virus and a local action. It is effective in the treatment of virus infections of the eyes and skin, and relieves the symptoms of influenza in patients on application in the nasal and pharyngeal cavities. Its effectiveness as an influenza preventive was studied during the 1969 epidemic caused by the A2 virus. Tests were carried out on 9,600 children 1-7 years old in two cities. Oxoline was applied twice a day for 25 days on the mucosa of the nose in the form of an 0.25-0.5% vaseline ointment, using 0.3-0.5 g ointment per child per day. The coefficient of effectiveness in preventing influenza was 1.7, corresponding to a reduction of the incidence of influenza by 43% over the controls. The frequency of side effects was 0.6 and 0.9% for the 0.25 and

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AKSENOV, V. A., et al, Farmakologiya i Toksikologiya, Vol 33, No 6, Nov/Dec 70, pp 726-733

and 0.5% ointment, respectively. The 0.25% ointment was as effective as the 0.5% ointment. The effectiveness coefficient was the same for children 1-3 years and 4-7 years old, a fact which indicated that oxoline produces a barrier effect, preventing entrance of the infection into the organism through the nasal mucosa, and is not resorbed into the blood. Prophylactic treatment with oxoline alleviated the clinical course of influenza when infection did occur and shortened the duration of the disease.

Therapy

USSR

UDC 615.281.8.035.4:616.938.75-053.4-036.8

AKSENOV, V. A., SELIDOVSKIN, D. A., GLADKIKH, G. N., KUBLIKOV, V. S., KUZNETSOVA, O. V., MOLODTSOVA, L. D., BERSENEVA, R. A., AKSENOV, L. A., BOGDANOVA, N. S., and PERSHIN, G. N., All Union Chemico-Pharmaceutical Institute imeni S. Ordzhonikidze, Ministry of Health USSR

"Study of the Prophylactic Value of the New Soviet Antiviral Preparation Oxolin in Preschool Children during the 1969 Influenza Epidemic"

Moscow, Pediatriya, No 5, 1970, pp 18-22

Abstract: The viricidal agent oxolin (tetraoxotetrahydronaphthalene (dihydrate) is effective in the treatment of adenovirus kerato-conjunctivitis, herpetic keratitis, dermatitides of virus etiology, and some acute respiratory diseases. In a double-blind trial, oxolin was administered to 4,170 children one to seven years of age in an unidentified Soviet city during the 1969 influenza epidemic. (It was applied to the nasal mucosa in the form of a 0.25% ointment on a vaseline base twice daily for 40-49 days). Oxolin reduced the incidence of influenza 1.7 times (43%) compared with control children. Severe forms of the disease and complications were 1.1-1.4 times more frequent in the latter than in those who received the preparation, and the course of the disease was 1.2 days longer on the average. The use of oxolin produced side effects in only 0.6% of the cases.

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1/2 018 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--MECHANISM OF THE INFLUENCE OF CALCIUM IONS ON HYDROGEN LIBERATION DURING THE PREPARATION OF CHLORINE AND CAUSTIC BY ELECTROLYSIS WITH A

AUTHOR--KORSHUNOV, V.N., GLADKIKH, I.P., VOLKOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--ELEKTROKHIMIYA 1970, 6(1), 117-20

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AMALGAM, REACTION KINETICS, CHEMICAL DECOMPOSITION, CALCIUM CHLORIDE, CHLORIDE ELECTROLYSIS, GAS ANALYSIS, HYDROGEN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1984/0330 STEP NO--UR/0364/70/006/001/0117/0120

CIRC ACCESSION NO--AP0055121

UNCLASSIFIED

2/2 018 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0055121

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETICS OF THE CA AMALGAM DECOMPN. IN 5N CACL SUB2 SOLNS. HAS BEEN STUDIED AT 25, 50, 75 AND 90DEGREES; THE RATE CONSTS. OF THE REACTION CA(HG) PLUS 2H SUB2 O YIELDS CA(OH) SUB2 PLUS H SUB2 PLUS HG HAVE BEEN CALCD. IT IS CONCLUDED THAT THE INCREASE OF H CONTENT IN THE GASEOUS PHASE OF THE ELECTROLYTIC CELLS IS CAUSED BY THE CA(OH) SUB2 PPT. COVERING THE HG CATHODE.

UNCLASSIFIED

USSR

UDC 539.216.2

GLADKIKH, N. T., ZHUKOVA, N. A., PROTSENKO, I. YE., and CHEKAREV, N. A., Kharkov State University imeni A. M. Gor'kiy

"Structure of Vanadium and Chromium Thin Films"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 36, No 1, 1973, pp 84-90

Abstract: The phase composition of vanadium and chromium films was investigated in relation ot thickness and temperature of the substrate, rate of condensation and pressure of residual gases ($\sim 10^{-5}$ and $\sim 10^{-8}$ torr). It is shown that in a vacuum of 10^{-5} torr, FCC phases are formed in the films which are close in their composition to VO and CrO. Structural transformations during aging or annealing of these phases were studied along with the conditions of formation of a phase with the structure of the beta-tungsten type in the chromium films. Relationships of the BCC lattice parameter to thickness for vanadium and chromium films, condensed in a vacuum, were obtained. Thus, the film phase composition is not determined by the absolute pressure of residual gases but by the ratio of the number of metal atoms on the substrate and gas impurity atoms which depends on the condensation rate, substrate temperature, and pressure in the vacuum chamber. Five figures, 18 bibliographic references.
1/1

172 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ISOTHERMAL MEASUREMENT OF LIQUID AND SOLID PHASE SURFACE ENERGIES
-U-
AUTHOR-(02)-GLADKIKH, N.T., KHOTKEVICH, V.I.

COUNTRY OF INFO--USSR

SOURCE--DOPOV. AKAD. NAUK UKR. RSR, SER. A 1970 32(2), 144-6

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SURFACE ENERGY, ISOTHERM, BISMUTH, MICA, GLASS, SODIUM CHLORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0024 STEP NO--UR/0441/70/032/002/0144/0146

CIRC ACCESSION NO--AT0125864
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AT0125864
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ACCORDING TC EARLIER STUDIES, THIN FILMS OF VARIOUS SUBSTANCES MELT AT A LOWER TEMP. THAN THAT OF THE MASSIVE SPECIMEN (TAU LESS THAN TAU SUBS). BY USING PUBLISHED EQUATIONS FOR DETG. THE CRIT. THICKNESS AT WHICH A FILM MELTS AT TAU LESS THAN TAU SUBS AND FOR THE CHANGE IN THE SURFACE ENERGY DURING THE MELTING (B. YA. POINES, 1961), A METHOD WAS DEVELOPED FOR DETG. THE DIFFERENCE IN THE SURFACE ENERGIES OF SOLID AND LIQ. PHASE (SIGMA SUB1 MINUS SIGMA SUB2) AND THEIR ABS. VALUES FROM DATA ON THE CRIT. FILM THICKNESS MEASURED ON VARIOUS SUBSTRATES AT A CONST. TEMP. FOR THE CASE OF COMPLETE NONWETTING OF THE SUBSTRATE BY THE FILM SUBSTANCE. FOR BI (SIGMA SUB1 MINUS SIGMA SUB2) EQUALS 170 ERGS PER CM PRIME2 AT TAU EQUALS 497 LESS THAN TAU SUBS EQUALS 544DEGREESK, AS DETD. FROM DATA ON CRIT. BI FILM THICKNESS MEASURED AT 497DEGREESK ON NACL CRYSTALS, MICA, AND GLASS SUBSTRATES.
FACILITY: KHARKIV. DERZH. UNIV., KHARKOV, USSR.

UNCLASSIFIED

USSR UDC 669.71.046.44

LAGUNOV, YU. V., GLADKIKH, V. A., PETRUNOV, V. S., RUDENKO, V. K., VOYTANIK, S. T., KLIMKOVICH, N. S., PORADA, A. N., and CHERNYSH, F. I.

"Investigation of the Kaolin Sintering Process"

Metallurgiya i koksokhimiya. Mezhved. resp. nauchno-tekhn. sb. (Metallurgy and Coke Chemistry -- Interdepartmental Republic - Collection of Scientific and Technical Works), 1970, vyp. 21, pp 47-55 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3 G143 by authors)

Translation: The authors work out the parameters of the sintering process for kaolins of the Glukhovetskoye, Prosyanaya, and Novoseletskoye deposits in a laboratory sintering cup of square section with a sintering area of 0.1 m^2 and with an exhauster having an efficiency of 0.5 m^3/sec. Fe concentrate was used as an additive to lower the melting point of the sintering charge. The hygroscopic moisture content of both primary and secondary kaolins intended for sintering should range from 13 to 18%. The sintering of both primary and secondary kaolins is shown to be possible in principle. 5 tables.

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Acc. Nr: AP0054286 Ref. Code: UR 0358

PRIMARY SOURCE: Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, 1970, Vol 39, Nr 1 , pp 88-91

Gladkikh, V. F., Lebedeva, M. N.:

Investigation of Absorption of Phenasal Administered Orally to White Rats

The content of phenasale in the blood serum of white rats was determined by a chemical method based on reaction of phenasale with ethanolamine. The drug was shown to be well adsorbed from the gastrointestinal tract and its concentration to be dependent on the amount of the dose administered. A comparatively rapid decline of the drug concentration in the blood was demonstrated.

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REEL/FRAME
19831424

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UDC 550.42

GLADKIKH, V. S., and LEBEDEV-ZINOV'YEV, A. A., Institute of Mineralogy Geochemistry and Crystallochemistry of Rare Elements, Moscow

"Uranium and Thorium in Alkaline Olivine-Basalt Series"

Moscow, Geokhimiya, No 11, Nov 71, pp 1315-1323

Abstract: Uranium and thorium distribution has been studied in 158 samples of effusive rocks of alkaline-basalt series (Maimecha-Kotuisk and Kuznetsko-Alatan provinces, zone of grabens in the southern part of the Russian platform). In the alkaline olivine-basalt series the concentration of uranium and thorium, as well as of zirconium and niobium, follows the increase in the alkalinity of the rock, going from basalt to the most alkaline members -- trachyandesite and trachyte. The thorium-uranium ratio diminishes in the same direction. The alkaline olivine-basalt series of platforms and regions with completed folding which are similar in their petrographic composition are characterized by similar concentrations of radioactive elements, in contrast to niobium and zirconium. Small increase in uranium and thorium concentrations may be observed only in series connected to alkaline-ultrabasic blocks and carbonates.

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USSR

UDC 632.4

GLADKIKH, V. I.

"Black or False Loose Smut of Barley in Altay Kray"

Moscow, Zashchita Rasteniy, No 2, Feb 73, pp 49-50

Abstract: Two types of barley smut have been recorded in Altay Kray: covered smut caused by Ustilago hordei and loose smut caused by U. nuda. Treatment of seeds with granozan or with formalin before planting is effective against the first form of smut, while thermal disinfection of the seeds is the only method of controlling the second form, which causes the more extensive damage. There is not a single installation for the thermal disinfection of seeds in Altay Kray. Recently a form of loose smut of barley was found to be present; the incidence of this smut could be reduced by chemical disinfection of the seeds. This form (black or false loose smut) was caused by U. nigra.

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USSR

UDC 620.193.2

MIKHAYLOVSKIY, YU. N., KLARK, G. B., SHUVAKHINA, L. A., SAN'KO, A. P., GLADKIKH, YU. P., and AGEYCHEV, V. V., Insitute of Physical Chemistry, Academy of Sciences USSR

"Calculation of the Atmospheric Corrosion Rate of Zinc and Cadmium Coatings in Different Climatic Areas"

Moscow, Zashchita Metallov, Vol 7, No 5, 1971, pp 534-539

Abstract: Zinc and cadmium are taken as examples in developing a general method of calculating the rate of atmospheric corrosion for any climatic zone in which corrosion related both to adsorption and phase moisture layers is taken into account. The meteorological factors involved included relative humidity, air temperature, the time during which the metal was wetted with phase mositure layers, and the content of corrosive admixtures in the atmosphere. Artificial climate chamber studies confirmed the linear dependence of the rate of zinc and cadmium corrosion on the SO_2 concentration (within the range 0.18-5 mg/m^3). The maximum rate of zinc and cadmium corrosion in rural areas in any climatic zone cannot exceed $\sim$10 g/m^2 · year in closed quarters and $\sim$ 30-40 g/m^2 · year out in the open. These values climb sharply when SO_2 is present in the 1/2

MIKHAYLOVSKIY, YU. N., et al., Zashchita Metallov, Vol 7, No 5, 1971, pp 534-539

atmosphere. For example, in an industrial atmosphere containing 0.2-0.3 mg/m^3 SO_2, the rate of zinc and cadmium corrosion increases by an order of magnitude and in a heavily contaminated atmopshere with high humidity can reach a level of 100-200 $g/m^2 \cdot year$. The difference between the corrosion rates of relatively thick ($\geq$ 20-30 microns) zinc and cadmium coatings and pure zinc and cadmium is not great, generally.

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USSR

GLADKIY, A. V.

"Description of the Syntactic Structure of a Sentence Using a System of Syntactic Groups. I. Formal Apparatus"

Nauch.-tekhn. Inform. sb. Vses. In-t Nauch. i Tekhn. Inform. [Scientific and Technical Information, Collection of All-Union Institute of Scientific and Technical Information], Ser. 2, No 9, 1971, pp 35-38, (Translated from Referativnyy Zhurnal, Kibernetika, No 2, 1972, Abstract No 2 V772 unsigned).

Translation: A method is suggested for description of the structure of a sentence which is a simultaneous generalization of the concepts of the system of components and a subordination tree.

6508
CSO: 1843-W - END -

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USSR UDC: 681.32

GLADKIY, V. S., Sevastopol'

"Probabilistic Processors for Statistical Data Processing"

Novosibirsk, Avtometriya, No 6, Nov/Dec 73, pp 3-11

Abstract: The method of probabilistic rounding can be used to reduce arithmetic operations on long numbers to operations on short numbers while maintaining the accuracy of calculating the arithmetical mean estimates equal to the accuracy with which the initial data are assigned. The paper describes computer devices for statistical processing of the number of series; these devices are based on probabilistic rounding methods.

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USSR

UDC: 681.325.59

GLADKIY, V. S., Marine Hydrophysics Institute, Academy of Sciences of the Ukrainian SSR

"A Device for Eliminating Round-Off Errors"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 2, Jan 73, Author's Certificate No 362299, Division G, filed 7 Jul 70, published 13 Dec 72, p 105

Translation: This Author's Certificate introduces a device for eliminating round-off errors. The unit contains registers, a round-off command decoder, an adder, and a diode group. As a distinguishing feature of the patent, round-off error accumulation is prevented by incorporating a probabilistic binary element whose input is connected through diodes to the round-off command decoder and to a register which holds the dropped part of the rounded-off number, while the output of the probabilistic binary element is connected through the adder to the least significant digital place of the register which holds the retained part of the rounded-off number.

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USSR UDC: 621.317.361(088.8)

GLADKONOGIKH, V. V.

"A Method of Automatic Frequency Measurement"

USSR Author's Certificate No 260014, filed 26 Aug 67, published 27 Apr 70 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A341 P)

Translation: As a distinguishing feature of the proposed method, the process of measurement is automated by automatic phase-frequency control of two identical heterodynes on spaced intermediate frequencies which makes it possible to obtain a measured frequency value equal to the ratio between the frequency of one of the heterodynes and the automatically adjusted heterodyne frequency difference, this ratio being measured by a counter frequency meter in the frequency ratio mode. E. L.

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USSR

UDC: 621.317.361.029.6

GLADKONOGIKH, V. V.

"An Automatic Frequency Measurement Method"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 3, 1970, p 61, patent No 260014, filed 26 Aug 67

Abstract: This Author's Certificate introduces an automatic frequency measurement method based on the use of automatic phase regulation of the frequency of an electronically tunable beat frequency oscillator. As a distinguishing feature of the method, the process of frequency measurement is automated by using automatic phase control of the frequencies of two identical beat frequency oscillators with respect to the frequency to be measured on spaced intermediate frequencies, so that the value of the frequency being measured is obtained as the ratio of the frequency of one of the beat frequency oscillators to the automatically set difference between the heterodyne frequencies. This ratio is measured by a count-rate frequency meter in the frequency ratio mode.

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S/019/60/000/021/086/145
A152/A029

AUTHORS: Gladkov, A.S.; Mityayeva, Ye.I.; Levin, A.M.; Chernov, G.V.

TITLE: A Copper Alloy

PERIODICAL: Byulleten' izobreteniy, 1960, No. 21, p. 49

TEXT: Class 40b, 6. No. 133233 (656711/22 of February 29, 1960). This novel copper alloy has the following special feature: in order to obtain better mechanical properties at high temperatures and higher electrical and heat-conductivity, it consists of (in %): 0.25 - 0.35 zirconium, 0.05 - 0.15 rhenium, the rest being copper.

Card 1/1

S/019/60/000/011/042/086
A151/A029

AUTHOR: Gladkov, A.S., and Kostroma, Ye.I.

TITLE: A Nickel-Based Alloy

PERIODICAL: Byulleten' izobreteniy, 1960, No. 11, p. 43

TEXT: Class 40b, 16. No. 129020 (636733/22 of August 18, 1959). A nickel-base alloy containing up to 26% tungsten, 0.05 - 0.15% silicon, 0.2% magnesium, 0.1 - 0.2% carbon and 0.07 - 1.0% iron. It has the following special features: to improve its mechanical properties, the composition of this alloy is supplemented with 1.5 - 2.0% of tantalum and 0.1 - 0.15% of niobium.

Card 1/1

USSR UDC: 621.396.6-181.5(088.8)

GLAZKOV, I. M., ZAYTSEV, V. A., KOZLOV, V. A., RAYKHMAN, Ya. A., TRYAKOV, E. N.

"A Microphoto Assembly Device for Making Phototemplates"

USSR Author's Certificate No 263414, filed 3 Jan 68, published 9 Jun 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6V209 P)

Translation: This Author's Certificate introduces a microphoto assembly device for making phototemplates. The device contains a stand with illuminator and shutter, a coordinate table with linear displacement data units, a composing diaphragm with sliding screens, an interchangeable objective in the form of a lens raster or high-resolution lens, and a program control unit. To improve accuracy (resolution) and increase productivity, a removable holder with a projection lens is mounted in a horizontal base on the coordinate table which rests on the upper surface of the stand. The table is equipped with an aperture for the lens and a receptacle for holding a photographic plate. The composition diaphragm with sliding screens hangs under the coordinate table on columns which pass through the stand. Fastened on the columns between the composition diaphragm and the lens is a ring for the phototemplate blank.

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USSR

UDC 619:614.9-07:637.5:612-086

GLADKOV, I. M., Candidate of Veterinary Sciences, SHIRYAYEVA, A. P., and SHEMYAKIN, G. V., Rostov Meat Processing Plant and North Caucasus Branch of All Union Scientific Research Institute of the Meat Industry

"Effect of Size of Meat Portion on Contamination With Microbes"

Moscow, Veterinariya, No 1, 1972, pp 100-102

Abstract: The total number of microbes in 1 g of meat taken from a portion originally weighing 20 g was much larger than in samples from portions weighing 1, 5 , 10, or 15 g. The isolability of microbes (E. coli) from a portion of meat ground in a mortar by hand was greater than from the same amount of meat ground in an RT-1 tissue pulverizer (8000 rpm for 5 min). The pulverizer had no effect on the viability of the microbes. Use of the pulverizer requires little physical effort and it precludes additional contamination by the microflora of the material being examined because the grinding is done in a tightly covered container.

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1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT7

TITLE--THEY ARE FIRING, AT THE CLOUDS, ANTI HAIL EXPEDITION AT WORK -U-

AUTHOR--GLADKOV, N.

6

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, PRAVDA, 16 JUNE 1970, P 2

DATE PUBLISHED--16JUN70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, AGRICULTURE

TOPIC TAGS--HAIL SUPPRESSION, AGRICULTURE CROP, ATMOSPHERIC CLOUD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0811 STEP NO--UR/9012/70/000/000/0002/0002

CIRC ACCESSION NO--AN0129902

UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--30OCT

CIRC ACCESSION NO--AN0129902

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE UZBEK ANTI HAIL EXPEDITION OF THE CENTRAL ASIATIC HYDROMETEOROLOGICAL INSTITUTE FOR THE FIRST TIME UNDERTOOK PROTECTION OF AGRICULTURAL FIELDS IN CHUSTSKIY RAYON IN NAMANGANSKAYA OBLAST LAST YEAR. ITS PRINCIPAL OBJECTIVE IS TO PREVENT THE HAIL HAVOC WHICH STATE AND COLLECTIVE FARMS HAVE ANNUALLY EXPERIENCED, RESULTING IN ENORMOUS LOSSES. IT MUST BE SAID THAT AEROLOGISTIS, WEATHERMEN, RADAR MEN, COMMUNICATIONS SPECIALISTS, ARTILLERY MEN AND ROCKET LAUNCHERS HANDLED THEIR WORK WELL. MANY THUNDERSTORM CLOUDS FROM WHICH HAIL COULD FALL PASSED OVER CHUSTSKIY RAYON, SITUATED IN THE FOOTHILLS OF THE CHATKALO KURAMINSKIY RANGE, DURING THE PAST YEAR. HOWEVER, THE ARTILLERY MEN AND ROCKET LAUNCHERS WERE ON THE ALERT. A TOTAL OF 140 TIMES THEY PELTED THE CLOUDS WITH ANTI AIRCRAFT SHELLS AND ROCKETS. RAYON SPECIALISTS CALCULATE THAT TH VALUE OF THE CROPS SAVED FROM HAIL DAMAGE IN THE FIELD IS FIVE AND A HALF MILLION RUBLES. IT WOULD SEEM FITTING TO MENTION THE FOLLOWING FACT. IN NEARBY YANGIKURGANSKIY RAYON, WHERE THE ANTI HAIL WORK IS YET TO BE INITIATED, MORE THAN 12,000 HECTARES OF COTTON WERE BEATEN DOWN B THE HAIL DURING THE PAST SPRING AND 6,000 HECTARES HAD TO BE RESOWN. THE LOSSES INFLICTED BY HAIL AMOUNTED TO TWO MILLION RUBLES. THIS YEA THE EXPEDITION HAS BEEN SUPPLEMENTED BY NEW EQUIPMENT AND NOW ITS PROTECTS 150,000 HECTARES OF AGRICULTURAL CROPS.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--BLAST FURNACE SMELTING USING BRIQUETTED COKE -U-

AUTHOR-(05)-NEKRASOV, Z.I., KOTOV, K.I., GLADKOV, N.A., GONCHAROV, V.F., ZHEMBUS, M.D.

COUNTRY OF INFO--USSR

SOURCE--MET. GORNORUD. PROM. 1970, (1), 3-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BLAST FURNACE, COKE, PIG IRON, BRIQUETTING, MECHANICAL STRENGTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0914 STEP NO--UR/0383/70/000/001/0003/0005

CIRC ACCESSION NO--AP0133003

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133003

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR THE EXPTL. SMELTING IN A BLAST FURNACE, A CHARGE CONTG. 10PERCENT BRIQUETTED COKE WAS USED. THE COKE SHOWED MECH. STRENGTHS, M SUB40 EQUALS 85-93PERCENT, M SUB10 EQUALS 3.4-8.8PERCENT, AND CONTAINED S 1.25-1.80, ASH 5.81-10.6, AND MOISTURE 5.8-10.6PERCENT. THE PROCESS PARAMETERS OBTAINED WERE COMPARED WITH THOSE OBTAINED WITH THE USE OF THE USUAL COKE. THE PIG IRON PRODUCED SHOWED NORMAL MN AND S AND SOMEWHAT HIGHER SI CONCNS. (0.81, 0.040, AND 0.92PERCENT, RESP). THE BRIQUETTED COKE ON CHARGING SHOWED SUFFICIENT STRENGTH AND DID NOT FORM A BREEZE. THE LENGTH OF THE OXIDIZING ZONE IN THE FURNACE WAS 1000 MM, AND CO DISAPPEARED AT 250-500 MM FROM THE MOUTH OF TUYERE. MAX. TEMPS. IN THE HEARTH AND BOSH WERE 1845 AND 1380DEGREES, RESP., AND THOSE OF THE PIG IRON AND SLAG AT THEIR TAP HOLES WERE 1515 AND 1580DEGREES, RESP. A CHARGE CONTG. 50PERCENT BRIQUETTEE COKE DOES NOT CAUSE ANY COMPLICATIONS IN THE OPERATION OF THE FURNACE.

UNCLASSIFIED

UDC: 621.315.592

USSR

GLADKOV, P. S., ZHURKIN, B. G., and PENIN, N. A.

"High-Frequency Photoconductivity and Recombination Radiation of Pure Germanium Under Intense Optical Excitation and Low Temperatures"

Leningrad, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1919-1925

Abstract: The high-frequency photoconductivity of pure germanium at a frequency of 10^{10} Hz and a line at 709 mev observed in the recombination radiation spectrum is experimentally investigated. A block diagram of the equipment is shown. The excitation source was a pulsed semiconductor laser, of GaAs operating at a wavelength of 0.84 microns, with an output power of 10-12 W in a pulse of 2 μs duration and a pulse repetition rate of 400 Hz. The specimen was illuminated by a light conductor of melted quartz, 4.2 mm in diameter, inside a standard 3-cm waveguide. A broad-band system with a strobic integrator was used to record the high-frequency conductivity of n-type germanium specimens with a specific resistance of 49 ohm·cm, attached directly to the lower end of the light conductor. Curves of the experimental results are

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USSR UDC: 621.315.592

GLADKOV, P. S., et al, Fizika i tekhnika poluprovodnikov, No 10, 1972, pp 1919-1923

given together with a reproduction of an oscillogram of the photoconductive pulse. It was found that the assumption that a sharp increase in conductivity can be produced by heating the specimen with a $10^{16}/cm^3$ concentration of unbalanced carriers is unjustified. The authors thank V. P. Aver'yanova for preparing the Ge specimens and P. G. Yeliseyev and V. P. Strakhov for supplying the GaAs laser.

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USSR

UDC 621.315.592

GLADKOV, P. S., GINODMAN, V. B., ZHURKIN, B. C., PENIN, N. A.

"Photodielectric Effect in Compensated p-Type Silicon"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 5, No 11, 1971, pp 2219-2221

Abstract: A study was made of the photodielectric effect caused by localized charge carriers in p-type silicon alloyed with zinc and phosphorus. Study of this material permitted observation of the photodielectric effect caused by the polarizability of the neutral phosphorus atoms arising from two causes: 1) the initial material had p-type conductivity and all the phosphorus atoms were ionized, that is, polarization of the small donor atoms (phosphorus) was absent; 2) inasmuch as the zinc in the silicon is a deep acceptor admixture, the polarizability of the zinc atoms could be neglected since the polarizability $\alpha \sim (E_i)^{-3}$, where E_i is the ionization energy of the admixed atoms. The experimental setup is described, and the results are discussed. The experimentally obtained value of the polarizability of the donor admixture of phosphorus in the silicon agrees well with the theoretical value of α_{theory} calculated by the formula presented in the paper by D'Altroy, et al. [Phys. Rev., No 103, 1671, 1956]. Under the assumption that the basic contribution to the

USSR

GLADKOV, P. S., et al., Fizika i Tekhnika Poluprovodnikov, Vol 5, No 11, 1971, pp 2219-2221

polarizability of the light donor admixture is made by an electron with an effective mass $m^*_{\perp} = 0.19\ m_0$, and the contribution of the electron with the mass $m^*_{\parallel} = 0.97\ m_0$ can be neglected. The calculations show that the electron with heavy mass gives a polarizability of $1.7 \cdot 10^{-20}$ cm^3 which is two orders less than the contribution to the polarizability by the light electron equal to $2.3 \cdot 10^{-18}$ cm^3. A graph is presented for the time dependence of the frequency shift of the oscillator used in the experiment after cessation of illumination. The decay curve is nonexponential, which is characteristic of the process of inter-admixture recombination.

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1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--DEPENDENCE OF HYPERFINE SPLITTING ON UNIAXIAL COMPRESSION IN THE EPR SPECTRUM OF PHOSPHORUS IN STRONGLY DOPED N SILICON -U-
AUTHOR-(04)-GINODMAN, V.B., GLADKOV, P.S., ZHURKIN, B.G., PENIN, N.A.

COUNTRY OF INFO--USSR

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SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(2), 325-8.

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SILICON SEMICONDUCTOR, ELECTRON PARAMAGNETIC RESONANCE, PHOSPHORUS, LINE SPLITTING, HYPERFINE STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1868 STEP NO--UR/0449/70/004/002/0325/0328

CIRC ACCESSION NO--AP0118832
UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0118832
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE EFFECT WAS STUDIED IN 3 N SI SAMPLES WITH DIFFERENT DONOR CONCNS. (N SUBD EQUALS 3 TIMES 10 PRIME16, 2 TIMES 10 PRIME17, AND 5 TIMES 10 PRIME17-CM PRIME3) AT 4.2DEGREESK. COMPRESSION P EQUALS 26 KG-MM PRIME2 WAS APPLIED PERPENDICULAR TO THE (100) AXIS. THE PRESSURE DEPENDENCE OF THE MAGNITUDE OF HYPERFINE SPLITTING A IN SAMPLES WITH N SUBD EQUALS 3 TIMES 10 PRIME16-CM PRIME3 COINCIDES WITH THE THEORETICAL, WHILE THE SAME DEPENDENCES IN THE MORE STRONGLY DOPED SAMPLES LIE WELL ABOVE THE THEORETICAL. THE A PRESSURE DEPENDENCE IS CONSIDERED AND APPROPRIATE EXPRESSIONS ARE DERIVED SHOWING THAT THE SHIFT TO HIGHER A VALUES IS CONSISTENT WITH THE ANTIFERROMAGNETIC CHARACTER OF THE EXCHANGE INTERACTION OF THE P DOPANT. THE ENERGY OF EXCHANGE INTERACTION J IS DETD. EXPTL. AND THE DEPENDENCE OF J ON THE MEAN DISTANCE R BETWEEN DONOR ATOMS IS PLOTTED WITH PRESENT AND EARLIER DATA. THE EXPTL. POINTS LIE FAIRLY CLOSE TO THE THEORETICAL LINE CALCD. WITH J SUBO EQUALS 6.28 TIMES 10 PRIME14 HZ, A BOHR RADIUS ALPHA EQUALS 20.8 ANGSTROM; AND R EQUALS C.69N SUBD PRIMENEGATIVEONE THIRD. FACILITY: FIZ. INST. IM. LEBEDEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR UDC: 681.327.12

GLADKOV, V. D.

"A Graphic Data Readout Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 4, Feb 72, Author's Certificate No 326606, Division G, filed 1 Oct 69, published 19 Jan 72, p 185

Translation: This Author's Certificate introduces a device for readout of graphic information which contains a plotting board with windings, X and Y coordinate switches, a pickup connected to a converter and to the output registers for the coordinates, a decoder, control flip-flops, a counter, a coincidence circuit, and a pulse distributor. As a distinguishing feature of the patent, the working accuracy of the device is improved by connecting the output of the pickup to the decoder and to the control flip-flops. The outputs of the flip-flops are connected to the interrogation switches of the loop-shaped plotting board windings, to the converter, and to the decoder. The output of the decoder is connected to the interrogation switches of the single-turn windings of the plotting board and to the counter. The output of the counter is connected

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USSR

GLADKOV, V. D., USSR Author's Certificate No 326606

to one of the inputs of the coincidence circuit, and the other input of the coincidence circuit is connected to the pulse distributor.

USSR

UDC: 621.317.089.68

TEVEROVSKIY, V. I., GLADKOV, V. D., AKIMOCHKIN, I. K.

"Equipment for Analyzing and Monitoring a Group of Quantum-Mechanical Time and Frequency Standards"

Dok. Nauchno-tekhn. seminara "Metrologiya v radioelektron." Tezisy, Ch. 2 (Reports of the Scientific and Technical Seminar on Metrology in Radio Electronics. Summaries, Part 2), Moscow, 1970, pp 27-30 (from RZh-Radiotekhnika, No 7, Jul 70, Abstract No 7A203)

Translation: To assure high metrological reliability of a grouped time and frequency standard based on quantum-mechanical oscillators, it is proposed that a signal be shaped whose phase (frequency) is the average of the phases (frequencies) of the separate oscillators. It is pointed out that this method is particularly applicable to quantum-mechanical oscillators in view of the small frequency difference between oscillators of this kind. In designing the averaging device, provision is made for periodic automatic phase control of the oscillators to bring the phase to that of the averaged signal. Information is given on the equipment developed. E. L.

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USSR

UDC 539.219.3

ANAN'IN, V. M., GLADKOV, V. P., ZOTOV, V. S., and SKOROV, D. M.

"Diffusion of Nickel in Beryllium"

Moscow, Atomnaya Energiya, Vol 29, No 3, Sep 70, pp 220-221

Abstract: The authors studied the diffusion of nickel in beryllium and two Be-Ni alloys containing 10 and 36 wt. percent nickel. The study material was distilled beryllium remelted in an arc furnace on a water-cooled copper hearth. The specimens first underwent high-temperature homogenizing annealing, then diffusion annealing following the application of an Ni-63 isotope to one of their surfaces. Radiometric and autoradiographic analyses indicate that the mobility of nickel along the grain boundaries of beryllium is very low and cannot be detected against a background of volume diffusion.

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USSR UDC 666.97.033.17:666.972.16:666.972.162.002.237

PEREDEREYEVA, E.K., Engineer, GLADKOV, V.S., Candidate of Technical Sciences
IVANOV, F.M., Doctor of Technical Sciences; MAZOV, G.I., Engineer

"Highly Frost-Resistant Centrifuged Concrete With Air-Entraining Additives"

Moscow, Gidrotekhnicheskoye Stroil'stvo, No 3, 1972, pp 37-39

Abstract: Presented in the article are the procedure and results of tests for frost-resistance, conducted on full-scale elements and on samples of various types of concrete with air-entraining and complex additives. It is noted that the air entrained into the concrete mixtures during centrifuging is not removed. It is shown that the introduction of air-entraining and complex additives into centrifuged concrete considerably increases its frost resistance. The greatest frost resistance is noted for shells made of a concrete mixture with an air-entraining additive consisting of neutralized air-entraining resin (2300 freezing and thawing cycles). Centrifuged shell piles with complex additives to provide high forst resistance, are now being produced. 3 figures, 4 tables. 11 bibliographic entries.

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Acc. Nr: AP0036829

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, 1970, Nr 1, pp 123-126

TYPES AND VIRULENCE OF HEMOLYTIC STREPTOCOCCI ISOLATED FROM SCARLET FEVER PATIENTS

Gladkova, K. K.; Strel'tsova, N. A.; Cherkasskaya, R. S.; Kaminskaya, E. I.; Fiks, L. I.

The type composition of hemolytic streptococci isolated from scarlet fever patients in 1966—1968 are presented. Of the typed strains, 134 (49%) belonged to type 4, and 63 (22.9%) — to type 1. The percentage of M-containing strains among the most widespread types of streptococci (4 and 1) was 68. The greatest number of M-containing cultures (77%) was revealed among the strains belonging to type 4, which was the «leading» during the period under study.

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USSR

UDC 621.3.032.35

MARKOVSKII, L. YA., TAUSHKANOVA, L. B., GLADKOVA, V. F., KONDRASHEV, YU. D.

"Interrelation between the Granulometric Composition of Zinc Sulfide-Cadmium Sulfide Luminophores and the Degree of Dispersion of the Original Zinc Sulfide-Cadmium Sulfide"

Leningrad, Russian, Zhurnal prikladnoi khimii, vol 46, No 7, July 73, pp 1430-1434

Abstract: The number of small particles in the luminophore ZnS-CdS (with Ag and NaCl) increased with increasing dispersion of both the ZnS and CdS, while the average grain size increased with decreasing specific volume of the sulfide powders. The ZnS affected the granulometric composition more than did the CdS. Electron micrographs of the 62% ZnS + 38% CdS product calcined at temperatures from 550 to 800°C show the increasing size of the grains with increasing calcination temperature.

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USSR

UDC 616.981.553

GLADKOVSKIY, A. P., LESNIKOV, A. L., MAKAROVA, T. A., PANOVA, K. M., DINER, Z. S., KRUPINA, A. P., and VITIVKER, V. S., Leningrad Hospital imeni S. P. Botkin, and Chair of Infectious Diseases, First Leningrad Medical Institute imeni I. P. Pavlov, and Institute of Epidemiology and Microbiology imeni Pasteur

"Clinical Symptoms and Etiology of Botulism"

Moscow, Klinicheskaya Meditsina, Vol 48, No 9, Sep 70, pp 79-83

Abstract: From 1959 to 1967 the authors treated 14 cases of botulism, most of which were caused by eating marinated or salted mushrooms or home-canned fish. The incubation period ranged from 2 hours to 3 days. The disease was incorrectly diagnosed in all but one case, owing to unfamiliarity with the symptoms on the part of the first doctors to see the patients (botulism has for sometime been virtually eradicated in the USSR). The initial symptoms are characteristic and readily detectable. They include a combination of indications of gastrointestinal disorders (vomiting, nausea, constipation, abdominal pains), with symptoms of impaired vision (anisocoria, mydriasis, diplopia, blepharoptosis, nystagmus, etc.), impaired swallowing, speech, and respiration. Prompt injection of antibotulinus serum usually prevents further development of the symptoms and, combined with antibiotics and hormones plus cardiovascular agents, strychnine, physostigmine, and pilocarpine, brings about recovery within about a month.

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USSR

UDC 621.438.621.51-253.5:539.4

PLOTNIKOVA, N. V., GLADKOVSKIY, V. A., and PLOTNIKOV, Yu. I.

"The Effect of Geometric Parameters on the Longevity of Compressor Blades of Gas Turbine Engines"

Sb. Nauch. Tr. Perm. Politekh. In-t [Collection of Scientific Works of Perm' Polytechnic Institute], No 102, 1971, pp 133-136 (from Referativnyy Zhurnal, No 10, Oct 72. 49. Turbostroyeniye. Single Issue. Abstract No 10.49.162)

Translation: The thickness of blade edges in their production strictly according to technological conditions does not affect essentially the endurance limit of the blades. The endurance limit of blades decreases with increasing length or sectional area in the zone of maximum bending stresses. In calculations of the cyclic safety factor of similar type blade of recently designed compressors, the fatigue limit has to be taken 20-25% below the endurance limit of laboratory test pieces. Some possible underestimating of endurance limits for small length blades will result in a small increase of the fatigue strength safety factor. One illustr., two tables, two biblio. refs.

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USSR UDC: 771.531.2: 771.534.14

GLADKOVSKIY, V.V. and MEYKLYAR, P.V.

"On Hypersensitizing Photopapers"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 17, Vyp 5, 1972, pp 353-359

Abstract: Experimental results of hypersensitizing unibrom type photopapers by preexposing with long wave light are analyzed. This preexposing results in considerable increase of the practical light sensitivity. Sensitized photopapers can be used to photograph infrared spectrums and to obtain prints from black and white negatives without the photopaper being affected by actinitic light. The use of oxydizers before and after preexposure reduces the effect of long wave light. The results obtained are attributed to the formation of subcenters due to the effect of red light, which are similar to latent image centers. Graphs and photographs showing the increase of light sensitivity due to preexposing are presented.

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USSR

UDC 669.15'295-194:620.178.2

LAKHTIN, Yu. M., ZELENOVA, V. D., GLADOVA, G. V., and KNOROZOVA, T. B.,
Moscow Automobile and Road Institute

"The Tendency Toward Brittle Failure of Titanium-Containing Steels"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 11, 1972,
pp 60-61

Abstract: A study was made of the tendency toward brittle failure of 30KhT2 and 30KhT2N3Yu steels containing 2.1% Ti, in order to determine regions of their applicability. Specimens with and without nitrated layer, the latter with notches, were subjected to impact tests. Their impact strength and cold brittleness threshold were determined and the macro- and micro-structures of fractures after tests at different temperatures were analyzed. According to test results and electron-microscopy investigations, the lower cold brittleness thresholds of 30KhT2 and 30KhT2N3Yu steels are at 10°C and 40°C, respectively. Because of the high temperature of the lower threshold of cold brittleness, the 30KhT2 and 30Kht2N3Yu steels are not recommended for parts working under conditions of significant impact loads. Two figures, one table, three bibliographic references.

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